

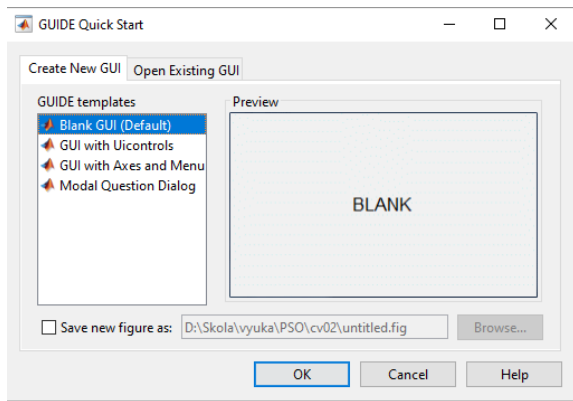
Advanced Image Processing - Matlab GUI

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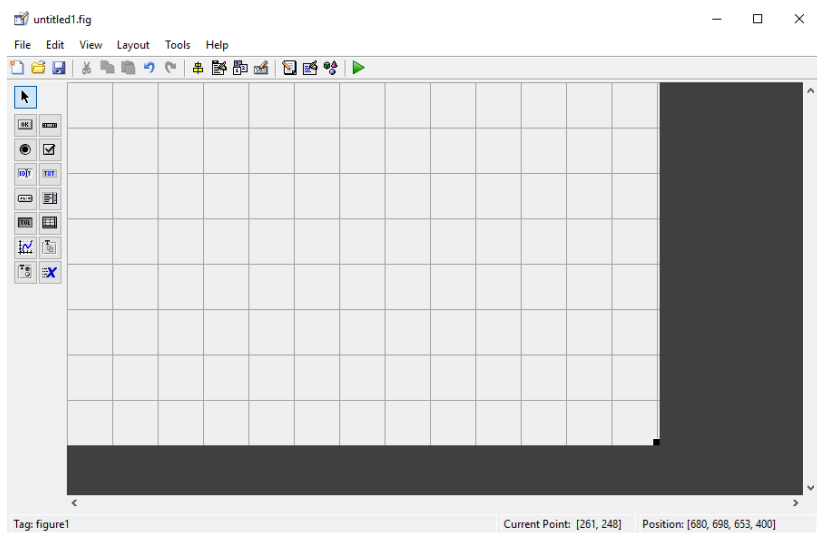
2.10.2019

Starting

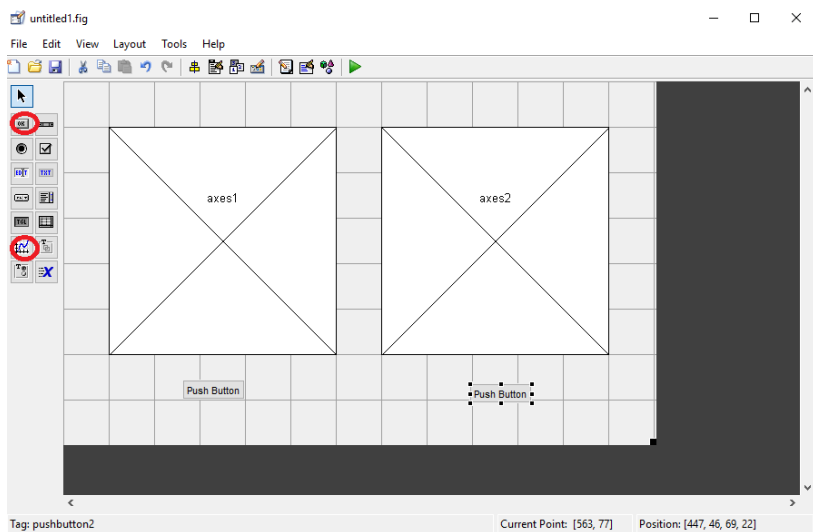


We get here by entering the command `guide`

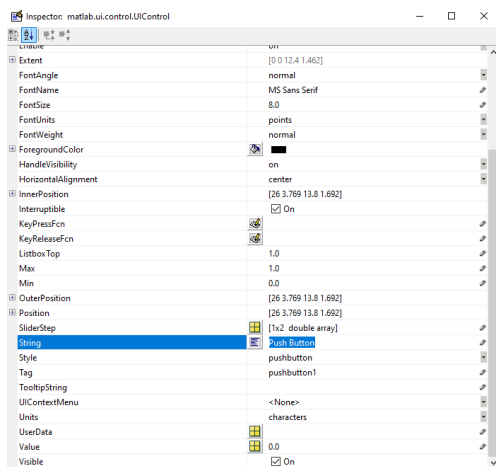
Empty GUI



Adding axes a buttons

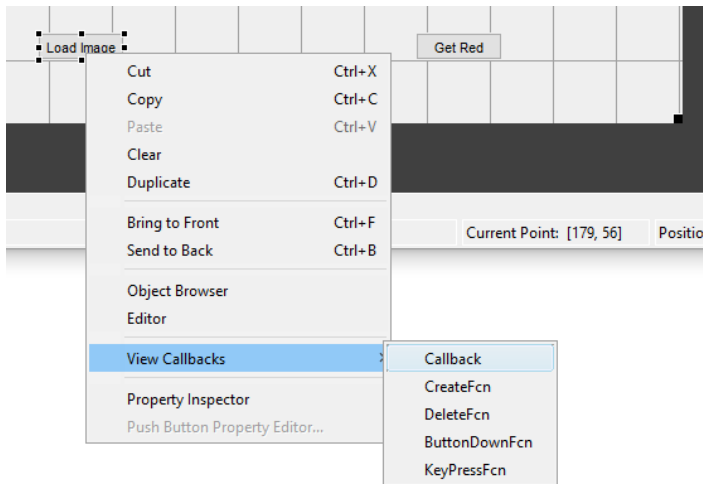


Changing the properties of objects



Open this by double clicking the object.

Callbacks



Writing data

set

`set(handles.objekt1,'property', value)` - changes the 'property' of `objektu1` to `value`

set - userdata

`set(handles.objekt1,'UserData', data)` - we use `UserData` property to save our own data

get

`get(handles.objekt1,'Property')` - reading properties, most useful for `UserData`

uigetfile

`uigetfile()` - opens a window to search for files in explorer

Writing and reading data

```
% --- Executes on button press in pushbutton1.
function pushbutton1_Callback(hObject, eventdata, handles)
% hObject      handle to pushbutton1 (see GCBO)
% eventdata    reserved - to be defined in a future version of MATLAB
% handles      structure with handles and user data (see GUIDATA)
[i_file,i_PathName] = uigetfile({'*.*', 'All Files (*.*)'})
if ~isequal(i_file, 0)
    % Reading the Image file
    i_file = fullfile(i_PathName,i_file);
    rgb = im2double(imread(i_file));
    set(handles.pushbutton2,'Enable', 'on');
    set(handles.pushbutton1,'UserData',rgb);
    imshow(rgb, 'Parent', handles.axes1);
end
```


Reading our data

```
function pushbutton2_Callback(hObject, eventdata, handles)
% hObject      handle to pushbutton2 (see GCBO)
% eventdata    reserved - to be defined in a future version of MATLAB
% handles      structure with handles and user data (see GUIDATA)
orig = get(handles.pushbutton1,'UserData');
orig(:, :, [2 3]) = 0;
ax = handles.axes2;
imshow(orig, 'Parent', ax);
```

Exercise

Assignment

Create a GUI where you can load an image and using three slides with values between 0 and 1 you can determine the scale with which you multiply the three RGB channels of the image which gets displayed in the GUI.

Sliders note

You can change the slider from vertical to horizontal and vice verse by changing its width/height.